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various forms of *Spongilla* and *Meyenia*, partially protects their statospheres from the accidents of the winter season, and when that protection fails them, the rays of the birotulate spicules of the latter and the curved acerates of the former, come in play to retain a sufficient number until the time of germination in the spring.

Three species of American sponges have been grouped under the generic name *Heteromeyenia*, characterized by the presence of a *second* form of birotulate spicules interspersed amongst the more familiar series. These are about double the length of the former and are terminated by long recurved hooks. The framework of two of these species is altogether filmy and fugitive; the statospheres are not held within the interspaces of the skeleton or retained in any other way, and are therefore dependent upon the above hooks for their attachment to proper bases for future growth.

Completing the series of retentive agencies we find the statospheres of the three species of the disputed genus *Carterella* provided, in addition to their birotulate spicules, with long curling or twisting tendrils, extensions, as we have heard, of the tough chitinous coat. These are required to meet the emergency occasioned by the looseness of their skeleton texture, from which the sarcode flesh dying early washes away, most of the spicules soon following in the winter floods. The eggs are thus left to the protection of the above tendrils which lap them together, bind them to the remaining spicules or the roots of water weeds or shore plants; or, assuming the role of the hair the plasterer uses, bind the deposited silt about them and both to the stones, where they await the appointed time for a new growth. This function is very clearly shown in the collection in Mr. Potts' possession, and the resemblance in material structure of these tendrils to that of the specialized hooks of the forms of Polyzoa referred to, is very striking. He hopes therefore, that as both analogy and observed facts seem to indicate the correctness of his position, Mr. Carter will be willing to accept the compliment intended and which is so well deserved.

DECEMBER 13.

The President, Dr. **RUSCHENBERGER**, in the chair.

Twenty-three persons present.

The death of Ami Boué, a correspondent, was announced.

Pilobolus crystallinus.—Mr. **THOMAS MEEHAN** remarked that this small fungus had proved this season to be an expensive annoyance to florists engaged in winter forcing flowers. Rosegrowers especially had found it to interfere seriously with their profits. The injury was caused by the projection of the sporangia which covered the flowers and leaves of the roses as if profusely dusted with black pepper. The flowers were almost unsaleable as the first impression was that the black dots were Aphides.

Mr. J. B. Ellis, of Newfield, N. J., to whom he was indebted for the identification of the species, had informed him that it was somewhat rare in that vicinity. In the greenhouses referred to they were in immense profusion, the conditions of growth being probably more favorable. Mr. Meehan described the growth of the plant and the behavior of the asci in the generation and expulsion of the sporangia, which corroborated the facts detailed in the memoir of Eugene Coemans, published in 1859 in the *Bulletin of the Royal Academy of Sciences of Brussels.* M. Coemans found the plant on half-dried cow-droppings, in August, and in these greenhouse cases it was also growing in half-rotten cow-manure used for enriching the soil. Mr. Ellis reports that it is sometimes found on other manures, and so may be less rare than supposed. The projection of the sporangia has been noted by European observers, and originated Fore's name *Pilobolus*, literally the hat- or cap-thrower. The sporangia appear as small black caps on the top of the crystal-like asci, and are expelled with great force. By careful measurements they were found to be thrown when the direction was perpendicular, to a height of four feet. Coemans does not seem satisfied that the exact process has been made clear by which this remarkable projection is effected. It has been supposed that carbonic acid gas is generated, which, distending the cysts, causes them at length to burst at the thinnest part, which is the apex, and the sporangia are then blown out by the gas, as would be a cork from a bottle of champagne. Again Coemans finds a double membrane to the asci, and believes that by the agency of light the inner membrane contracts in a different manner to the outer, and that the projection is the result of this peculiar contraction. Mr. Meehan observed that the sporangia were expelled from the interior of the asci before they were finally discharged, and that they were always projected in a direct line from the centre, which would hardly be the case if a mere explosion of gas directed the movement. One large rose-grower had found, that sprinkling the surface of the earth under the rose plants with about the eighth of an inch of dry earth, effectually allayed the projectile annoyance.

DECEMBER 20.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-five persons present.

The deaths of Edw. Taylor and Dr. Isaac I. Hayes, members, were announced.